

Reference Sheet

Customer: Rodenstock is Germany's leading manufacturer of ophthalmic lenses and spectacles frames. The company, which was founded in 1877, is based in Munich, has a worldwide workforce of approximately 4,500, and is represented in more than 85 countries with sales subsidiaries and distribution partners. Rodenstock maintains production sites at 15 locations in 13 countries.

Application: Characterization and analysis of novel coatings to gain a deeper insight into mechanisms of scratch resistance and layer adhesion of next generation ophthalmic coatings.

The system allows us to judge the visibility of scratches and other defects with the optical microscope and offers the possibility to switch to the AFM at any point of interest.

The optical microscope offers fast screening capability and contrast enhancing methods like darkfield or phase contrast, which are not available in AFM video systems. Combining the advantages of the optical microscope with the high accuracy of the AFM leads to a unique system and results in fewer AFM scans with a higher quality of each scan.

Sample: Ophthalmic lenses

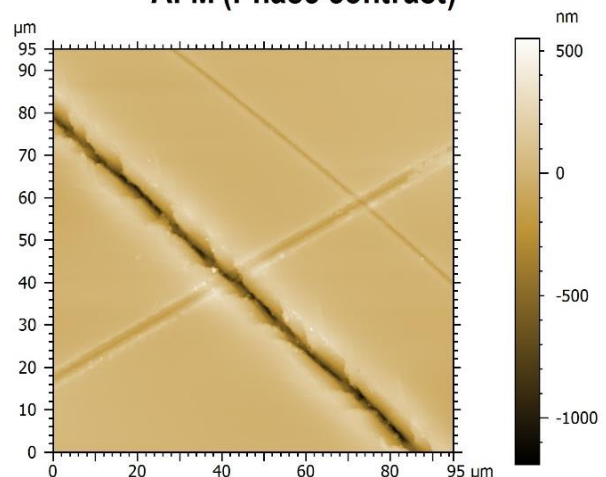
Specialty of the Nanosurf solution: Shuttle stage to transfer samples from existing inverted optical microscope to Flex-Axiom AFM System. This offers a unique opportunity to perform a joint analysis of both optical and topographic information on a nanoscale.

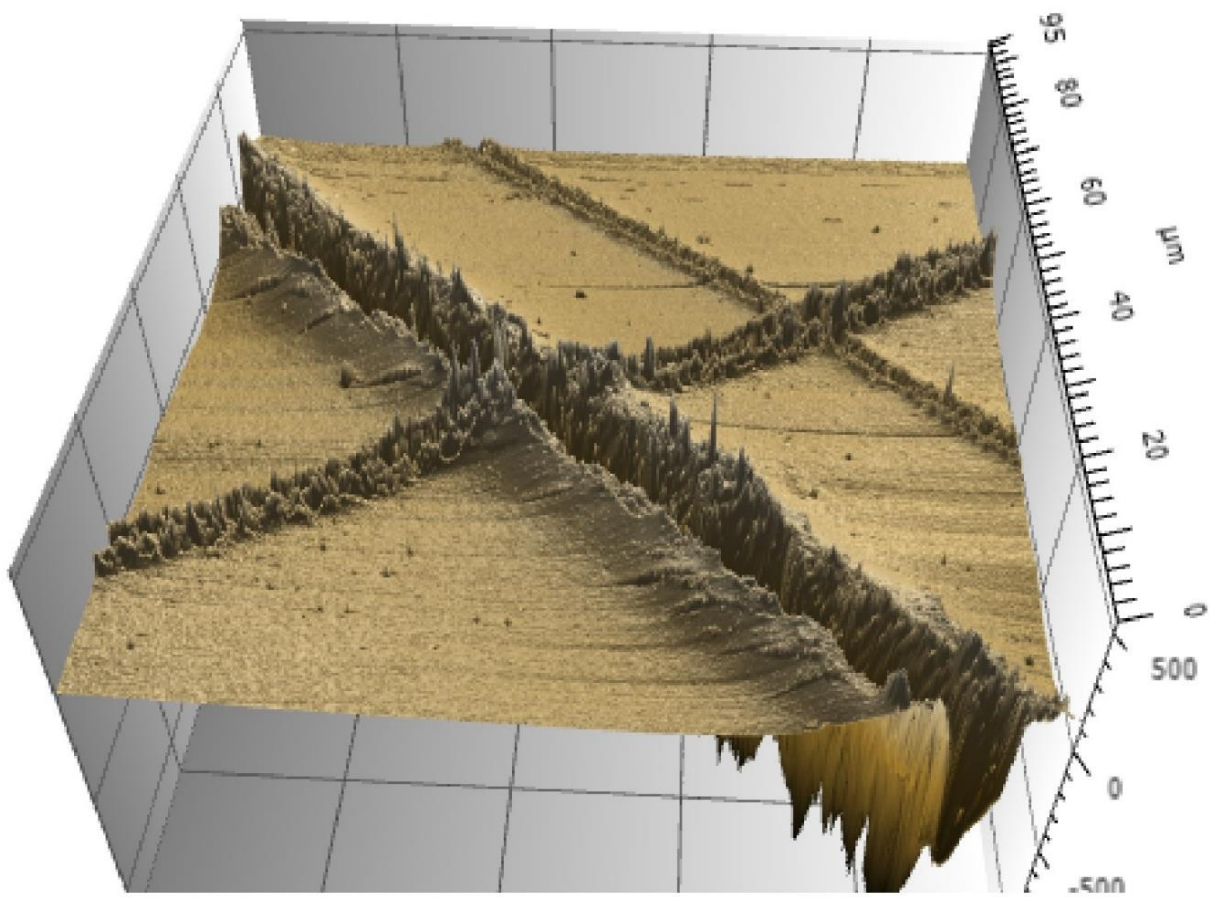
Results: Shuttle stage works with repositioning accuracy below 20 μm ; see measurement of crossing scratches below.

Microscope (20x bright field)

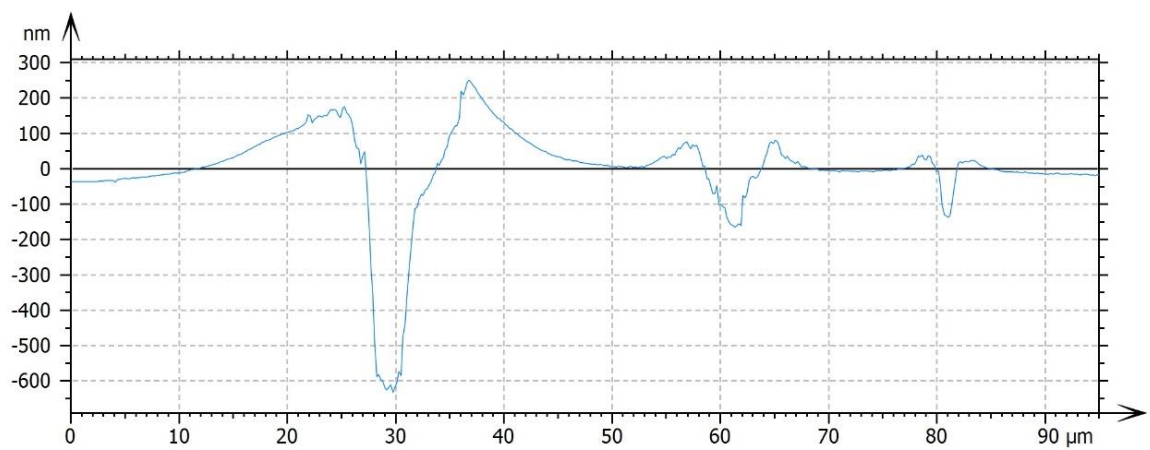


AFM (Phase contrast)





Cross section



Parameters	Value	Unit
Length	95.0	μm